UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/458,917	12/10/1999	MARTIN E. NEWELL	07844-353001	9475

21876 7590 10/06/2003

FISH & RICHARDSON P.C.
500 ARGUELLO STREET
SUITE 500
REDWOOD CITY, CA 94063

EXAMINER	
SAJOUS, WESNER	
ART UNIT	**PAPER NUMBER**
2676	17

DATE MAILED: 10/06/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/458,917	Applicant(s) Newell et al.
	Examiner Wesner Sajous	Art Unit 2676

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1) ☒ Responsive to communication(s) filed on *Jul 16, 2003* .

2a) ☒ This action is **FINAL.** 2b) ☐ This action is non-final.

3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

Disposition of Claims

4) ☒ Claim(s) *1-17, 23, and 24* is/are pending in the application.

4a) Of the above, claim(s) _____ is/are withdrawn from consideration.

5) ☐ Claim(s) _____ is/are allowed.

6) ☒ Claim(s) *1-17, 23, and 24* is/are rejected.

7) ☐ Claim(s) _____ is/are objected to.

8) ☐ Claims _____ are subject to restriction and/or election requirement.

Application Papers

9) ☐ The specification is objected to by the Examiner.

10) ☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved.

12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

a) ☐ All b) ☐ Some* c) ☐ None of:

1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____ .
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

15) ☐ Notice of References Cited (PTO-892)

16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 16

18) ☐ Interview Summary (PTO-413) Paper No(s). _____

19) ☐ Notice of Informal Patent Application (PTO-152)

20) ☐ Other:

DETAILED ACTION

Remarks

This communication is responsive to the amendment filed on July 16, 2003. Claims 1-17 and 23-24 are pending in the application.

Response to Arguments

1. Applicant's arguments filed 7/16/2003 have been fully considered but they are not persuasive.

The Applicant, at page 6, paragraph 6 of the response, argues that the Ahlquist reference does not disclose or suggest predefining the positions of any particular points along the Bezier spline. The Applicant appears to further argues that even though in Ahlquist a position has been predefined for a location, there would be no determination of new positions for the predefined point along the spline, and/or that the repositioning of point 21a by the user would have produce no change in canonical locations and thus no change in Bezier shape.

The Examiner, in response, respectfully disagrees. Ahlquist, at col. 3, lines 9-35, suggests that a user can select any specific place on the Bezier spline and pulls the place to a desired location on the Bezier spline. And, as the user moves or pulls the specific place or location (e.g., location 21a, fig. 2b), new locations or positions (e.g. locations 22a and 22b) along the path of the Bezier shape are determined based on the user selected location. See fig. 2b. [Canonical] locations

22a and 22b are adjusted by pull tool 23 based on the user input in fig. 2b. See col. 5, lines 25-38. This being the case, it is construed that Ahlquist teaches the predefined locations along a Bezier shape, as claimed, and that the repositioning of point 21a by the user produces change in canonical locations and thus change in the Bezier shape, as discussed above. The Applicant's arguments are not deemed persuasive. The rejections are maintained.

Claims 2-15 contains at least in part the features of claim 1, they are rejected for at least the same reasons as claim 1.

Independent claims 16-17, and 23-24 are similar to claim 1; they are similarly rejected as claim 1.

Claim Rejections - 35 USC § 103

2. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

3. Claims 1-13, 15-17, and 23-24 are rejected under 35 U.S.C. 103(a) as obvious over . Broekhuijsen (Pat. No. 5731820) and/or the article to Bartels et al. "A Technique for the Direct Manipulation of Splines Curves" in view of Ahlquist, Jr., Pat. No. 6459439.

Considering claim 1, Broekhuijsen discloses most claimed features of the invention as set forth most in the previous action, paper no. 13. See also the Bartels et al. article at pages 33-39. Broekhuijsen and/or Bartels, however, fails to teach the step of "determining new positions for canonical locations on the Bezier shape based on predefined behaviors of the canonical locations with respect to the user-specified change in position, the positions of the canonical locations along the Bezier shape being predefined".

Ahlquist, Jr. in a similar art teaches the concept equivalent to determining (e.g., by means of a computer processor via pulling tool 23) new positions for canonical locations (e.g., segment locations along the path between points 13 and 14, see fig. 2A-H) on the Bezier shape (e.g., path 10 of fig. 1) based on predefined behaviors of the canonical locations with respect to the user-specified change in position, the positions of the canonical locations on the Bezier shape being predefined. See col. 5, lines 10-65.

Therefore, it would have been obvious to one of ordinary skilled in the art at the time the invention was made to modify the features of Broekhuijsen and/or Bartels to include the step of determining new position for predefined canonical locations along a Bezier shape, as taught by Ahlquist, Jr.; in order to allow the user to reshape or modify any part or area of the path. See Ahlquist, Jr. col. 3, lines 65-67.

Regarding claim 2, the claimed "shape is comprises a d-degree Bezier curve, d an integer greater than 1, governed by d+1 control points" is met by Broekhuijsen's cols. 15-16, lines 64-8. See also paragraph 6 of the Bartels article.

In claim 3, the claimed "with d+1 canonical locations" is met by Broekhuijsen col. 21, lines 5-12, wherein the positions for canonical locations with respect to user-specified change in position are determined when the additional inputs are provided to change end point from 430 to 432.

Re claim 4, the claimed "adjusting the control points so that the Bezier shape contains the canonical locations in their new locations," is met by Broekhuijsen's fig. 1, item 202 in view of fig. 4, item 430 and 432, see col. 14, lines 49-53.

In claim 5, the claimed "Bezier shape comprises a curve or a surface" is met by either of figs. 2-4 of Broekhuijsen.

In claim 6, the claimed "rendering the Bezier shape based on the new positions of the d+1 canonical locations" is equivalently met by fig. 1, items 202 and 210. See col. 21, lines 5-12.

As per claim 7, the claimed "target location in its changed positions lies on the rendered Bezier shape" is intrinsic to the disclosure at fig. 4. See Broekhuijsen's col. 14, lines 52-57.

Re claim 8, the claimed "predefined intended behavior is expressed in response functions that define the relationship between changes in positions of target locations and changes in positions of canonical locations" is characterized by the illustration provided at fig. 4, items 418/430, and 432, see col. 14, lines 49-53 of Broekhuijsen.

Regarding claim 9, it is noted that all the steps recited herein are steps necessary for implementing the curve fitting system, as applied in fig. 4 of Broekhujsen and would have been obvious over the prior art at the time of the invention was made, in order to transform the Bezier

shape. Such technique is well known in the art for manipulation of B-Spline curves in two or three dimensional tensor product surfaces manipulation. See Broekhuijsen's fig. 4, 24, and 27-28, and col. 14, lines 30 through col. 25, line 67.

Re claim 10, the claimed "Bezier shape comprises a d-degree curve, the one end and the other end comprise end points of the curve, and the target location comprises a point along the curve" is met by Broekhuijsen's fig. 4, with the one end and other end with end points of the curve are defined by Pn/430 and Pn+1/432, respectively, and the target location is characterized by point 418.

As per claim 11, the claimed "Bezier shape comprises a 3-degree curve and there are four canonical locations" is equivalently met by the teaching at col. 8, line 4, and col. 16, lines 1-35 of Broekhuijsen, wherein the 3-degree curve being defined by the cubic Bezier curve represented by d+1 points.

As per claim 12, the claimed "Bezier shape comprises a 2-degree curve and there are four canonical locations" is obviously met by the teaching at col. 16, lines 1-35 of the Broekhuijsen's reference, the degree level of the curve is determined upon the user's preference.

Re claim 13, the claimed "The control points are adjusted using a pre-computed basis coefficient matrix" is met by Broekhuijsen cols. 14-15, lines 15-62, wherein the pre-computed basis coefficient matrix is characterized by the building variables 414. See fig. 11.

In claim 15, the claimed "processing the relocation information as a series of curve relocations" is met by Broekhuijsen's fig. 1, item 202.

The invention of claim 16 is a medium storing machine readable instructions arrange to perform the method of claim 1, it is, therefore, subject to rejections for the same reasons and rationale set forth for claim 1.

Considering claim 17, Broekhuijsen set forth most claimed features of the invention as set forth most in the previous action, paper no. 13. See also the Bartels et al. article at pages 33-39. However, Broekhuijsen and/or Bartels fails to teach the step of "determining new positions for canonical locations on the Bezier shape based on predefined behaviors of the canonical locations with respect to the user-specified change in position, the positions of the canonical locations along the Bezier shape being predefined".

Ahlquist, Jr. in a similar art teaches the concept equivalent to determining (e.g., by means of a computer processor via pulling tool 23) new positions for canonical locations (e.g., segment locations along the path between points 13 and 14, see fig. 2A-H) on the Bezier shape (e.g., path 10 of fig. 1) based on predefined behaviors of the canonical locations with respect to the user-specified change in position, the positions of the canonical locations on the Bezier shape being predefined. See col. 5, lines 10-65.

Therefore, it would have been obvious to one of ordinary skilled in the art at the time the invention was made to modify the features of Broekhuijsen and/or Bartels to include the step of determining new position for predefined canonical locations along a Bezier shape, as taught by

Ahlquist, Jr.; in order to allow the user to reshape or modify any part or area of the path. See Ahlquist, Jr. col. 3, lines 65-67.

The invention of claim 23, recite the underlying elements of method claim 1. As the various elements of claim 1 have been shown to be met by the combined teachings of Broekhuijsen and/or Bartels with Ahlquist Jr., it is readily apparent the method disclosed by the applied prior art performs the recited underlying functions. As such the limitations recited in claim 23 are rejected for the same reasons and rationale given above for claim 1.

The invention of claim 24 recites features equivalent to and performing the same method as claim 23, it is, therefore, subject to rejections for the same reasons and rationale set forth for claim 23. Note that Broekhuijsen edits the curve implementing a cursor movement to move point 418 of 430 to point 432 which is intrinsic to dragging point 418 to a new location, i.e., point 432. See col. 17, lines 1-9.

Claim Rejections - 35 USC § 103

4. Claim 14 is rejected under 35 U.S.C. 103(a) as being unpatentable over Broekhuijsen and/or Bartels in view Ahlquist Jr. and further in view of Hosya.

Regarding claim 14, Broekhuijsen and/or Bartels in view of Ahlquist Jr. set forth most claimed features of the invention, but he fails to teach the claimed-- forming a mesh on the surface and searching quadrilaterals of the mesh--.

Hosoya at figure 16B and/or figure 5B shows the forming of a mesh on the surface including results of quadrilaterals searched of the mesh. See col. 2, lines 58-65.

Therefore, it would have been obvious to one of ordinary skilled in the art at the time the invention was made to modify Broekhuijsen and/or Bartels and Ahlquist Jr. by incorporating the forming of a mesh on the surface including results of quadrilaterals searched of the mesh, as taught by Hosoya's col. 2, lines 58-65, in order to make it possible to produce an enlarged or compressed character or the like having a smooth contour without sacrificing the quality. See Hosoya's col. 1, lines 33-36.

Conclusion

5. **THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).**

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the

advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

Any response to this action should be mailed to :

Box

Commissioner of Patents and Trademarks
Washington, DC 20231

or faxed to:

(703) 872-9314 (**for Technology Center 2600 only**)

0r:

(703) 308-5359 for informal or draft communications, please label "PROPOSED" or DRAFT")

Hand-held delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA , 6th floor (receptionist).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wesner Sajous whose telephone number is (703) 308- 5857. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew Bella, can be reached at (703) 308-6829. The fax phone number for this group is (703) 308-6606.

Wesner Sajous -WS

MATTHEW C. BELLA
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600

10/1/03